

Applicants: Ekaterina Dadachova et al.

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Listing of the Claims:

A listing of the claims is presented below. No amendments are being made to the claims with this reply.

1. (Previously presented) A method of treating a subject having a melanin-containing tumor which comprises administering to the subject a radiolabeled monoclonal antibody that specifically binds to melanin, wherein the radiolabeled monoclonal antibody is administered in a radiation dose of 1-1000 mCi and wherein administration of the radiolabeled monoclonal antibody to the subject inhibits growth of the melanin-containing tumor.
2. (Previously presented) A method of imaging a melanin-containing tumor in a subject which comprises administering to the subject an amount of a radiolabeled monoclonal antibody effective to image the tumor, wherein the radiolabeled monoclonal antibody specifically binds to melanin and wherein the radiolabeled monoclonal antibody binds to melanin from a dead or dying melanin-containing tumor cell.
- 3-4. (Canceled)
5. (Previously presented) A method for treating a melanin-containing melanoma in a subject which comprises administering to the subject an amount of a radiolabeled monoclonal antibody effective to treat the melanoma, wherein the radiolabeled monoclonal antibody specifically binds to melanin.
6. (Previously presented) A method for imaging a melanin-containing melanoma in a subject which comprises administering to the subject an amount of a

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radiolabeled monoclonal antibody effective to image the melanoma, wherein the radiolabeled monoclonal antibody specifically binds to melanin.

7. (Previously presented) The method of claim 1 or 5 wherein the antibody is labeled with an alpha-emitting radioisotope.
8. (Original) The method of claim 7 wherein the alpha-emitting radioisotope is 213-Bismuth.
9. (Previously presented) The method of claim 1 or 5 wherein the antibody is labeled with a beta-emitting radioisotope.
10. (Original) The method of claim 9 wherein the beta-emitting radioisotope is 188-Rhenium.
11. (Previously presented) The method of claim 1 or 5 wherein the antibody is labeled with a radioisotope selected from the group consisting of a positron emitter and an admixture of any of an alpha emitter, a beta emitter, and a positron emitter.
12. (Previously presented) The method of claim 2 or 6 wherein the antibody is labeled with a radioisotope selected from the group consisting of a beta emitter, a positron emitter, and an admixture of a beta emitter and a positron emitter.
13. (Previously presented) The method of claim 2 or 6 wherein the antibody is labeled with a radioisotope selected from the group consisting of 99m-Technetium, 111-Indium, 67-Gallium, 123-Iodine, 124-Iodine, 131-Iodine and 18-Fluorine.

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14. (Previously presented) The method of claim 1, 2, 5 or 6 wherein the subject is a mammal.
15. (Original) The method of claim 14 wherein the mammal is a human.
16. (Previously presented) The method of claim 5 wherein the amount effective to treat the melanoma is a dose of 1-1000 mCi.
17. (Canceled)
18. (Previously presented) The method of claim 1, 2, 5 or 6, wherein the antibody is a $F(ab')_2$ fragment or a Fab' fragment of a whole antibody.
19. (Previously presented) The method of claim 1, 2, 5 or 6, wherein the antibody is an IgM antibody, an IgG antibody, or an IgA antibody.
- 20-24. (Canceled)
25. (Previously presented) The method of claim 1, 2, 5 or 6, wherein uptake of radiolabeled antibody by the kidney is inhibited by administering a positively charged amino acid to the subject.
26. (Original) The method of claim 25, wherein the amino acid is D-lysine.
27. (Previously presented) The method of claim 1 or 5 which further comprises administering to the subject an amount of antibodies radiolabeled with a plurality of different radioisotopes.

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28. (Original) The method of claim 27, wherein the radioisotopes are isotopes of a plurality of different elements.
29. (Original) The method of claim 27, wherein at least one radioisotope is a long range emitter and at least one radioisotope is a short range emitter.
30. (Original) The method of claim 29, wherein the long-range emitter is a beta emitter and the short range emitter is an alpha emitter.
31. (Original) The method of claim 30, wherein the beta emitter is 188-Rhenium and the alpha emitter is 213-Bismuth.
32. (Original) The method of claim 27, wherein the plurality of different radioisotopes is more effective in treating the tumor than a single radioisotope within the plurality of different radioisotopes, where the radiation dose of the single radioisotope is the same as the combined radiation dose of the plurality of different radioisotopes.
33. (Previously presented) The method of claim 5 or 6, wherein uptake of the radiolabeled monoclonal antibody in the melanoma is at least 10 times greater than in surrounding muscle.
34. (Canceled)
35. (Previously presented) The method of claim 5 or 6, wherein the radiolabeled monoclonal antibody is not taken up by non-cancerous melanin-containing tissue.

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36. (Original) The method of claim 35, wherein the non-cancerous melanin-containing tissue is hair, eyes, skin, brain, spinal cord, and/or peripheral neurons.

37. (Previously presented) The method of claim 1 or 5, which comprises multiple administrations of the radiolabeled antibody to the subject.

38-40. (Canceled)

41. (Previously presented) The method of claim 1, 5 or 6, wherein where the radiolabeled monoclonal antibody binds to melanin from a dead or dying melanoma cell.

42. (Previously presented) The method of claim 5, wherein administration of the radiolabeled monoclonal antibody to the subject inhibits growth of the melanoma.

43. (Previously presented) The method of claim 1, wherein administration of the radiolabeled monoclonal antibody to the subject decreases the volume of the melanin-containing tumor.

44. (Previously presented) The method of claim 5, wherein administration of the radiolabeled monoclonal antibody to the subject decreases the volume of the melanoma.